

Amendment After Final Office Action
Serial No. 10/632,480

Docket 5000-1-359

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A two-fiber optical ring network having a plurality of nodes linked by a first fiber optic link and a second fiber optic link,; each of the nodes comprising:

a first splitting section for splitting optical signals received from the first fiber optic link into protection channels and working channels;

a first add/drop section for performing adding and/or dropping -a channel on the working channels received from the first splitting section;

a first switching section for combining -the protection channels received from the first splitting section with the working channels ~~traveling through~~ that have been output from the add/drop section ~~the first fiber optic link~~ when there is no link failure between adjacent nodes and for outputting the protection channels received from the first splitting section to the second fiber optic link when there is a link failure between adjacent nodes; and,

a controlling section for identifying whether or not the optical link failure occurs in the first and second fiber optic links and for generating a control signal to activate a restoration process according to the identified outcome,

wherein when there is optical link failure only the protection channel is switched to the second link.

2. (Original) The node according to claim 1, wherein the first splitting section comprises an optical filter.

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3. (Original) The node according to claim 1, further comprising:

a second splitting section for splitting optical signals received from the second fiber optic link into the protection channels and working channels;

a second add/drop section for performing adding and/or dropping a channel on the working channels received from the second splitting section; and,

a second switching section for combining the protection channels received from the second splitting section with the working channels traveling through the second fiber optic link when there is no link failure between adjacent nodes and for outputting the protection channels received from the second splitting section to the first fiber optic link when there is a link failure between adjacent nodes.

4. (Original) The node according to claim 3, wherein the second splitting section comprises an optical filter.

5. (Currently Amended) The node according to claim 3, wherein the first add/drop section comprises:

a first demultiplexer for performing wavelength-division demultiplexing and outputting demultiplexed signals that are inputted through the first splitting section;

a first optical receiver for performing a photoelectric conversion with respect to ~~a~~-channels dropped from the first demultiplexer and for outputting the converted channels;

a first tap coupler, provided on a path between the first demultiplexer and the first optical receiver, for splitting a part of the channel inputted into the first optical

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receiver and for outputting the split channel to the controlling section;

a first optical transmitter for outputting a channels to be added;

a second tap coupler, provided on a path between the first optical transmitter and the first demultiplexer, for splitting a part of the channel outputted from the first optical transmitter and for outputting the split channel to the controlling section; and,

a first multiplexer for performing wavelength-division-multiplexing the working channels inputted from the first demultiplexer and the channel from the first optical transmitter and for outputting the multiplexed channels.

6. (Original) The node according to claim 5, wherein the first demultiplexer comprises an arrayed waveguide grating.

7. (Original) The node according to claim 5, wherein the first optical transmitter comprises a laser diode.

8. (Original) The node according to claim 5, wherein the first optical receiver comprises a photodiode.

9. (Currently Amended) The node according to claim 5, wherein the first switching section comprises:

a first switch for performing passing or switching the protection channels inputted from the first splitting section based on the control signal generated by the controlling section;

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a first coupler for combining at its inputs, the protection channels ~~inputting~~ the first switch with a channel ~~passing through~~inputted from the output of second add/drop section and for outputting the combined results;

a second coupler for combining at its inputs, the multiplexed channels ~~inputted~~ output from the first multiplexer and the protection channels inputted from the first coupler and for ~~outputting~~passed through the combined results; and,

a third coupler, provided between the second splitting section and the second add/drop section, for combining the protection channels outputted when in the switch state ~~from the first switch~~ with working channels outputted from the second splitting section.

10. (Currently Amended) The node according to claim 9, wherein the second add/drop section comprises:

a second demultiplexer for performing wavelength-division demultiplexing and outputting the working channels inputted through the second splitting section;

a second optical receiver for performing a photoelectric conversion with respect to a channels dropped from the second demultiplexer and for outputting the converted channels;

a second tap coupler, provided on a path between the second demultiplexer and the second optical receiver, for splitting a part of the channel inputted into the second optical receiver and for outputting the split channel to the controlling section;

a second optical transmitter for outputting a channels to be added;

a fourth tap coupler, provided on a path between the second optical transmitter

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and the second demultiplexer, for splitting a part of the channel outputted from the second optical transmitter and for outputting the split channel to the controlling section; and,

a second multiplexer for performing wavelength-division-multiplexing the working channels inputted from the second demultiplexer and the channel from the second optical transmitter and for outputting the multiplexed channels.

11. (Original) The node according to claim 10, wherein the second demultiplexer comprises an arrayed waveguide grating.

12. (Original) The node according to claim 10, wherein the first optical transmitter comprises a laser diode.

13. (Original) The node according to claim 10, wherein the first optical receiver comprises a photodiode.

14. (Original) The node according to claim 10, wherein the second switching section comprises:

a second switch for performing passing or switching the protection channels inputted from the second splitting section based on the control signal generated by the controlling section;

a fourth coupler for combining the protection channels inputted from the second switch with channels inputted from the first add/drop section and for outputting the

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combined results;

a fifth coupler for combining the multiplexed channels inputted from the second multiplexer and the protection channels inputted from the fourth coupler and for outputting the combined results; and,

a sixth coupler, provided between the first splitting section and the first add/drop section, for combining the protection channels from the second switch with working channels outputted from the first splitting section.